

# Quarterly Activities Report

## For the period ending 31 December 2021

---

### HIGHLIGHTS

- **Youanmi Deeps Resource upgrade lifts total Youanmi Resource to 3 Moz Au**
  - **Capital efficient Albion process shows average gold extraction of 92.2% in conceptual flowsheet for Youanmi sulphide ore**
  - **Continued exploration success at Youanmi indicates resource growth to continue**
  - **Exploration recommences at Mt Fisher - Mt Eureka Gold Project**
- 

West Australian focused gold exploration and development Company (“**Rox**” or “**the Company**”) (ASX: RXL), is pleased to present its quarterly activities report for the period ending 31 December 2021.

During the quarter, Rox made significant progress toward establishment of production at the Youanmi Gold Project in WA through ongoing drilling and studies, and also resumed drilling at the Mt Fisher - Mt Eureka Gold Project in WA.

The extensive drilling and exploration activities at Youanmi lead to ongoing success at the Link Prospect, while a newly delineated hanging wall lode at Youanmi (Midway Prospect) is emerging as a strong target for follow-up drilling in 2022.

Subsequent to the quarter end Rox announced an increase in the Total Youanmi Mineral Resource of 1.34Moz Au to 3 Moz Au. The increase was based on drilling results up to the end of October 2021 and included an update to the Deeps Resource only, with the surface resource to be updated by the end of FY22. Pleasingly the resource contains a high-grade component of 9.9Mt at 6.89g/t Au for 2.2M ounces.

Rox is carrying out a number of development studies at Youanmi, including metallurgical testwork to address gold extraction from sulphide ore. During the quarter, two oxidation methods were tested including the pressure oxidation leach process (POX) and the Albion Process. Both saw improved gold recovery rates from the historic 86.8% to 95.6% and 92.2% respectively, with the Albion method preferred because of its lower cost.

Building on an extensive project scale review at the Mt Fisher- Mt Eureka Gold Project in the December quarter, Rox resumed exploration works including a 160-hole, 7,000-metre aircore drilling program, a circa 4000m Reverse Circulation (RC) program and a high-resolution airborne magnetic survey targeting orogenic gold mineralisation and VMS style mineralisation over recently defined key target areas on Rox’s 100% owned tenements.

For personal use only

**Managing Director Alex Passmore commented:** *“The December quarter saw further outstanding exploration results reported from drilling at the Youanmi Gold Project, and also the delivery of impressive results from metallurgical testwork on sulphide ore.*

*“Our systematic and targeted exploration efforts at Youanmi continue to deliver strong results as we progress toward the potential restart of mining activities. This is clearly demonstrated with the recent resource upgrade announced subsequent to the quarter end. The geology team have done an incredible job in discovering new gold bearing structures.*

*The results from metallurgical testwork at Youanmi have been highly encouraging, with the Albion process significantly improving the gold recovery grade at a capital-efficient rate. Continued progress on these fronts emphasises the strong upside and outlook for Youanmi.*

*At Rox’s second gold project, Mt Fisher, we are also actively exploring and are excited by the potential for a high-grade discovery.”*

## **Youanmi Gold Project**

Rox holds a 70% interest in the OYG Joint Venture and is the manager at the historic Youanmi mining centre. Venus Metals Corporation Limited (ASX:VMC) (“Venus” or “VMC”) retains a 30% interest.

The Youanmi Gold Project is located 480km NE of Perth and 400km inland and to the east of Geraldton. The Youanmi Gold Mine, located near the centre of the project tenement package, has historic production of 667,000 ounces of gold grading 5.42g/t from open pit (1987 - 1993) and underground operations. The operation was closed in 1997 when the gold price was approximately \$400 per ounce with the last parcel of ore mined underground at 14.6 g/t Au grade.

The Youanmi Project Mineral Resource Estimate of 24.6Mt at 3.78 g/t Au for 3.0Moz of gold can be categorised into a near surface portion of 14.7Mt at 1.69 g/t Au for 0.8M ounces of gold and the Youanmi deeps of 9.9Mt at 6.9 g/t Au for 2.2M ounces of gold (refer ASX release 20 January 2022).

Resource extension drilling was conducted at Youanmi during the quarter with reverse circulation and diamond drilling rigs targeting shallow and deep positions respectively. Rox also undertook a substantial aircore drilling program on the regional tenements in the second half of calendar 2022 with results still pending.

Rox is working on further Resource updates that will incorporate all drilling results from 2021, to be released in the first half of this calendar year.

## **Resource Upgrade**

Subsequent to the quarter end Rox announced that the Youanmi total mineral resource increased to 3Moz Au, an increase of 1.34Moz Au from the June 2021 resource of 1.66Moz Au (refer Table 1). The increase was based on drilling results up to the end of October 2021 and included an update to the Deeps Resource only, with the surface resource to be updated by the end of FY22.

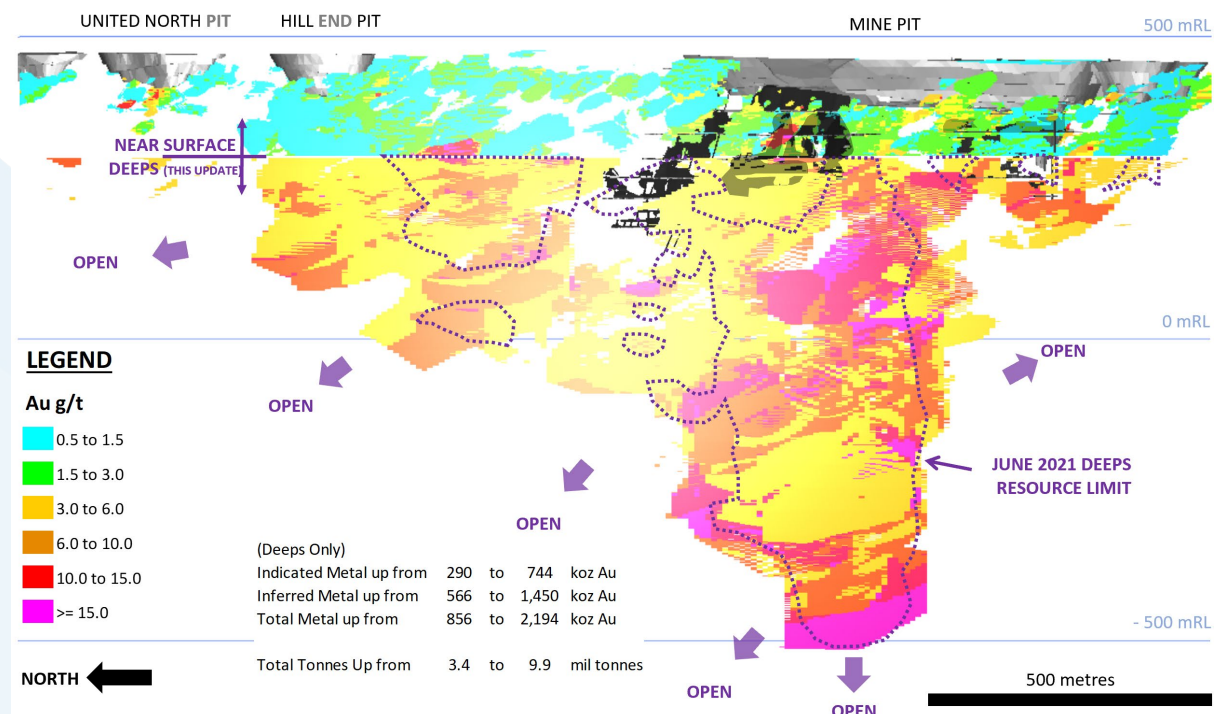
The substantial increase in the Deeps Resource (+156% metal ounces) was across both the Indicated and Inferred categories and resulted in a significant increase in Au metal ounces per vertical metre, paving the way for expected robust conceptual economics.

The Deeps Resource upgrade was as a result of seven months of intensive diamond drilling for around 35,000 metres including infill, extensional, as well as defining new areas such as Link, Junction, and mineralisation-parallel hanging-wall lodges.

**Table 1: Summary of Youanmi Mineral Resource January 2022**

Area	Classification	Cut-off	June 2021 Resource			Change in Au Metal (%)	January 2022 Resource		
			Tonnes (dmt)	Au Grade (g/t)	Au Metal (oz)		Tonnes (dmt)	Au Grade (g/t)	Au Metal (oz)
Near Surface	Indicated	0.5 g/t*	7,470,000	1.81	434,000	na	7,470,000	1.81	434,000
Deeps	Indicated	3.0 g/t	1,097,000	8.23	290,200	up 156%	3,060,000	7.55	744,000
<b>SubTotal</b>	<b>Indicated</b>		<b>8,567,000</b>	<b>2.63</b>	<b>724,200</b>	<b>up 63%</b>	<b>10,530,000</b>	<b>3.48</b>	<b>1,178,000</b>
Near Surface	Inferred	0.5 g/t*	7,240,000	1.57	366,000	na	7,240,000	1.57	366,000
Deeps	Inferred	3.0 g/t	2,279,000	7.73	566,200	up 156%	6,840,000	6.59	1,450,000
<b>SubTotal</b>	<b>Inferred</b>		<b>9,519,000</b>	<b>3.05</b>	<b>932,200</b>	<b>up 95%</b>	<b>14,080,000</b>	<b>4.01</b>	<b>1,816,000</b>
Near Surface	Ind + Inf	0.5 g/t*	14,710,000	1.69	800,000	na	14,710,000	1.69	800,000
Deeps	Ind + Inf	3.0 g/t	3,376,000	7.89	856,300	up 156%	9,900,000	6.89	2,194,000
<b>Near Surface + Deeps</b>	<b>Ind + Inf</b>		<b>18,086,000</b>	<b>2.85</b>	<b>1,656,300</b>	<b>up 81%</b>	<b>24,610,000</b>	<b>3.78</b>	<b>2,994,000</b>

\* Grace 1.5 g/t Au Cut-Off



**Figure 1: Deeps Resource and Near Surface Resource Model Au grade distribution in area near pits, showing progression of Deeps Model from June 2021 (Deeps is below 300mRL)**

For personal use only

## Link Prospect

The Link target area is situated within the Northern Mineralised Envelope that hosts the high-grade United North, Kathleen and Rebel-Kurrajong open pits and Hill End underground mine.

On 19 October 2021, Rox reported assay results for four holes from the RC and diamond drilling program being undertaken at the Link Prospect at Youanmi from holes drilled during the quarter. At Link, a strongly mineralised North-South trending conjugate structure intersects the NW trending Mine Shear and forms multiple north plunging high-grade ore shoots. The highlights of this round of results included:

- RXRC412: 8m @ 6.24g/t Au from 249m, including 3m @ 12.1g/t Au from 250m
- RXDD030: 0.5m @ 77.49g/t Au from 277.8m and 0.75m @ 19.66g/t Au from 270.9m
- RXDD019: 1m @ 11.05g/t Au from 389m
- RXDD021: 0.7m @ 11.06g/t Au from 289.35m

On 29 November 2021, Rox reported a further four assays from the Link Prospect, including:

- RXRC430: 3m @ 9.35g/t Au from 182m, within 5m @ 6.33g/t Au from 180m
- RXRC428: 2m @ 7.93g/t Au from 279m within 9m @ 3.02g/t Au from 272m
- RXRC426: 2m @ 12.59g/t Au from 235m within 3m @ 8.61g/t Au from 235m
- RXRC406: 2m @ 7.81g/t Au from 234m, within 7m @ 2.82g/t Au from 230m

These results were from a 40mx40m-spaced (grid) drill pattern at Link, designed to convert mineralisation in the zone to additional gold resource inventory at Youanmi, and demonstrate that mineralisation in the area shows good continuity and should convert into resource ounces.

Further assay results were announced on 22 December 2021 for three RC holes at Link. The results included:

- RXRC437: 3m @ 7.23g/t Au from 131m, within 9m @ 4.27g/t Au from 128m
- RXRC436: 2m @ 8.16g/t Au from 183m, within 8m @ 4.17g/t Au from 178m
- RXRC438: 2m @ 6.78g/t Au from 127m, within 5m @ 4.33g/t Au from 122m

The results reported from this release were from shallower drilling up-plunge at Link in an area previously untested by drilling – between the base of historic open pits and underground development. Gold mineralisation intersected by this drilling is at 110 metres' depth, beneath the base of the Hill End open pit – a small historically mined (10m-15m depth) pit at Youanmi. This mineralisation also lies in a gap between the shallow and deep resource envelopes, and hence is likely to contribute additional ounces to the resource inventory.

Mineralisation remains open down plunge to the northwest and up dip to the southeast.

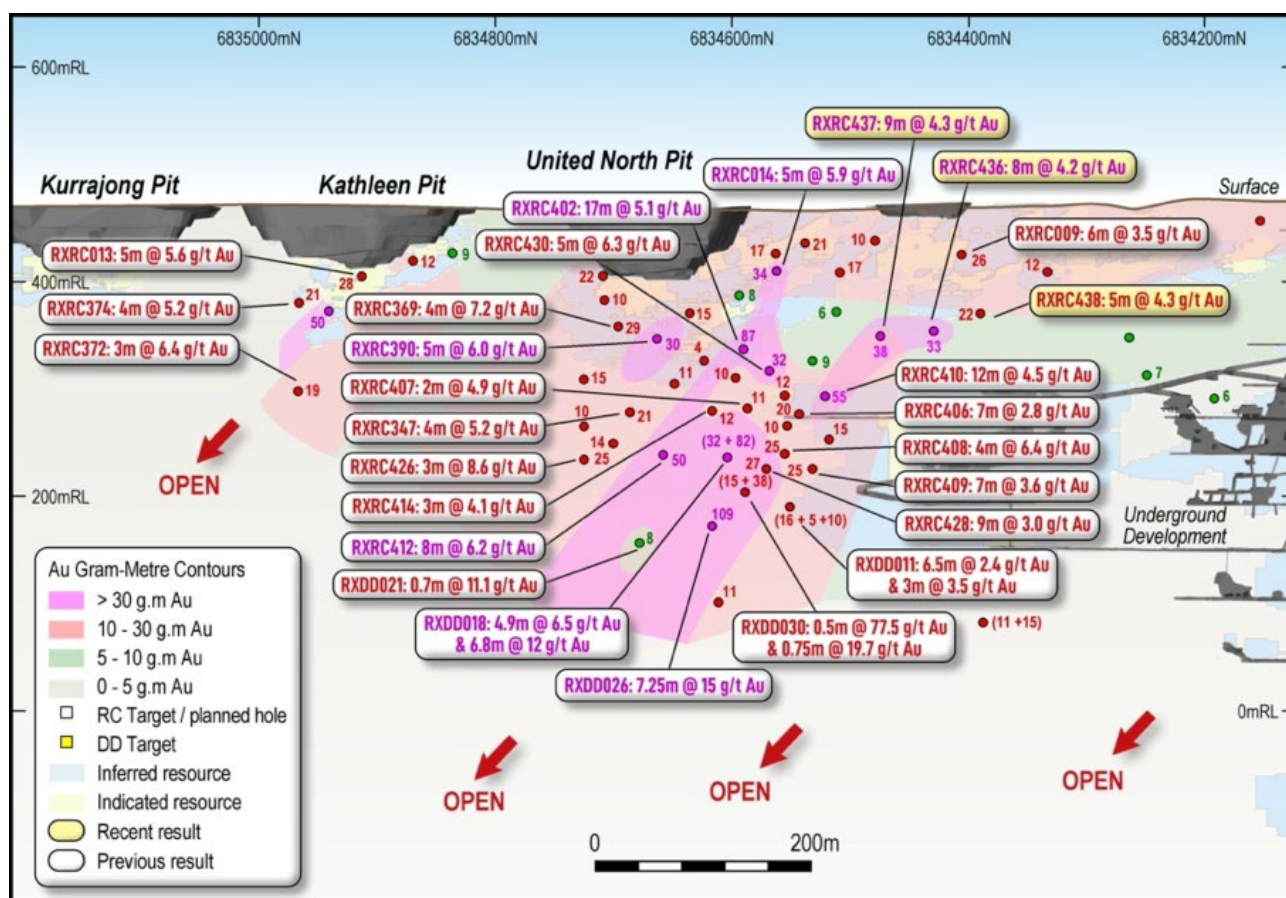


Figure 2: Link Prospect long section (ASX: 22 December 2021)

### Youanmi Hangingwall Lode (Midway Prospect)

Drilling at a newly delineated Hangingwall lode at Youanmi, as reported on 6 September 2021, has defined high-grade mineralisation in a newly delineated position in the hanging wall to the west of the Youanmi Mine Lode. This zone of mineralisation is situated 300m southwest of the Youanmi underground mine between the Bunker Pit and the Youanmi Main Pit. The Company has named the prospect “Midway”.

On 18 November 2021, Rox reported that two additional diamond holes were completed to follow up on the previously reported intersection in hole RXDD022 (4m @ 45.5g/t Au from 341m, including 1.33m @ 129.3g/t Au from 341.75m) (ASX RXL 06/09/2021). Follow up drilling was completed 40m up dip (RXDD045) and 40m up plunge (RXDD046) of RXDD022. Both holes intersected similar style high-grade mineralisation.

High-grade intersections include:

- RXDD046: 3.87m @ 9.9g/t Au from 328.33m, including 2.45m @ 15.02 g/t Au from 328.8m
- RXDD045: 3.62m @ 6.49g/t Au from 315.42m, including 0.86m @ 21.03g/t Au from 315.42m

For personal use only

The results define a WNW striking, SW dipping shear zone. Structural measurements within the mineralised zones (shear fabric and stretching mineral lineation) indicate the lode is dipping moderately towards the southwest and shows a high-grade component plunging at 10-20 degrees to the WNW. The orientation of the new lode is different to previously identified lodes at Youanmi, which characteristically strike at N and NNW orientations. Gold mineralisation is shear hosted within highly altered tholeiitic and komatiitic basaltic rocks. The alteration assemblages consist of sericite, quartz, carbonate, and biotite. Gold occurs in association with pyrite and lesser arsenopyrite. Midway is open at depth and along strike and demonstrates the likelihood for economic mineralisation to be developed in this area.

Follow up drilling is planned. The Company is hopeful this new area will contribute to further resource additions.

### **Metallurgical testwork**

As a part of the ongoing studies underway into potential production at the Youanmi Gold Project, Rox has undertaken a series of metallurgical testwork programs aimed at optimising gold recovery prior to progressing toward more extensive and detailed testwork.

On 6 October, Rox Reported that using the pressure oxidation leach process (POX) had indicated an increase from 86.8% to 95.6% gold recovery.

The testwork demonstrated a well understood pathway to very high gold recoveries, something which was not achieved during historical mining.

On 23 December 2021, Rox announced that further testwork utilising the Albion process achieved an average of 92.2% gold extraction for the Youanmi Deeps mineralisation. Due to the capital efficiency of the process, the Albion process is the preferred recovery method for Youanmi Deeps ore, as it is likely to deliver the lowest capital and operating costs of methods evaluated to date. Rox intends to complete more detailed testwork which will incorporate larger sample volumes.

The next round of testwork will include at least five potential mining domains, each made up of composite samples taken from approximately 45 individual diamond drill core intervals comprising of mainly half and quarter NQ drilling core.

The next testwork phase will include flotation grind size and reagent suite optimisation, Albion optimisation testwork, ultra-fine grind energy usage studies, engineering data tests (viscosities, tailings characterisation, thickener tests etc.) and comminution characterisation. Optimisation work is typically on a Master Composite sample that is representative of the overall resource blend, with variability confirmation testwork targeting grade, lithology, and depth.

For personal use only

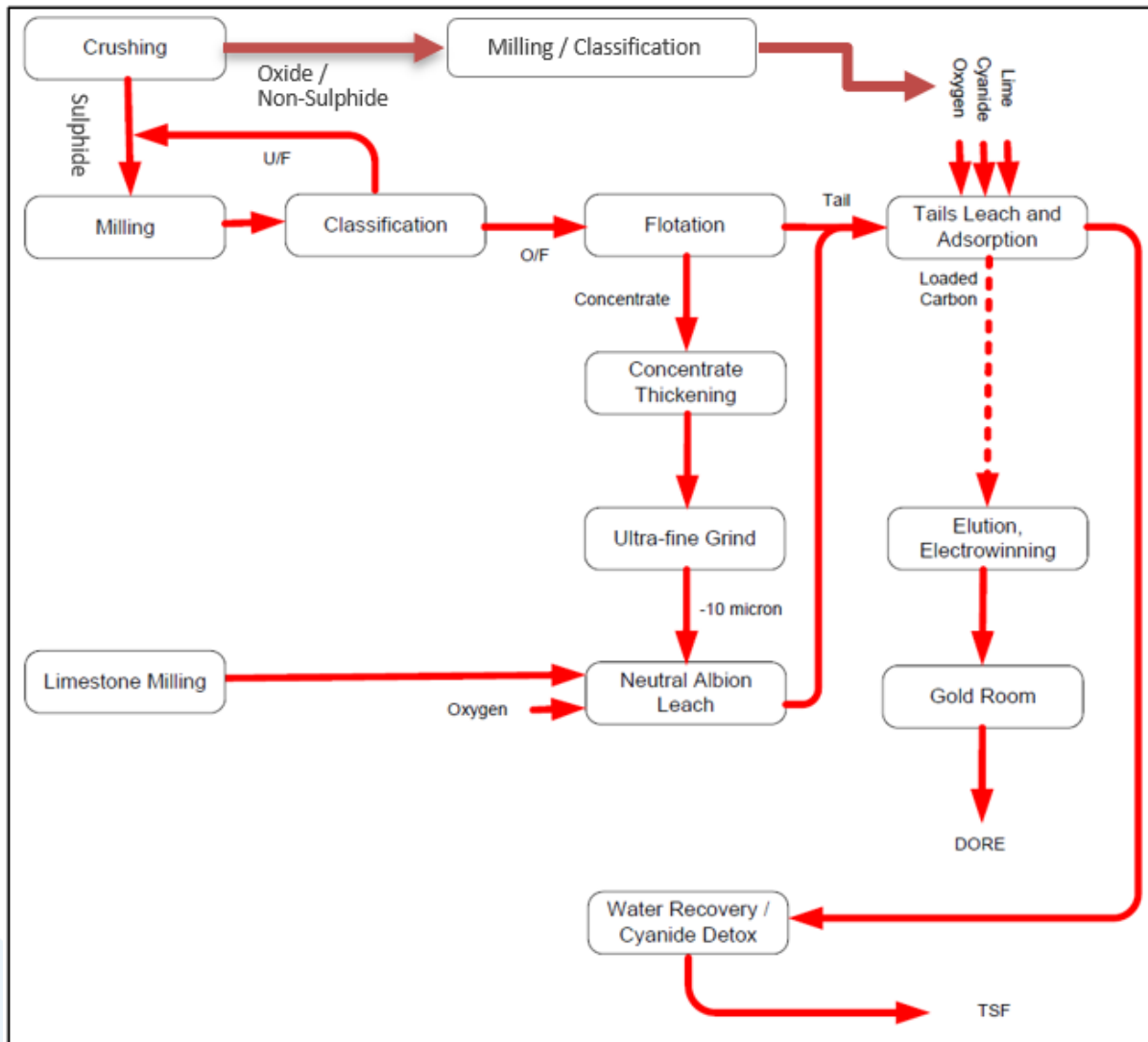


Figure 3: Indicative Conceptual Flow Sheet – Youanmi Non-Sulphide / Sulphide

### Forward Plans

Following the substantial upgrade to the Youanmi Mineral Resource Estimate the Company expects conceptual level project economics to be very robust and is hence continuing to rapidly pursue its investigation of development pathways for the Youanmi Gold Project.

Additional drilling results from November and December 2021 will be incorporated into the next Mineral Resource Estimate update expected in the June 2022 quarter.

The Company is undertaking open pit and underground mining studies including detailed mine design and optimisation. Detailed metallurgical testwork also continues which is being utilised in plant design work (scoping study level) that is also being undertaken.

For personal use only

Exploration programs in 2022 will include resource conversion in addition to extensional drilling, noting that the resource remains open down dip and along strike.

### Youanmi Regional Joint Ventures

Rox, as manager, and its joint venture partner, Venus, are parties to three joint ventures covering regional exploration at Youanmi.

1. The high-grade historic Currans Find Joint Venture located in the centre of the Youanmi Gold Project in which Rox and Venus each hold a 45% interest in all minerals (ASX: 10 April 2019);
2. The VMC Joint Venture in which Rox has earned a 50% interest in the gold rights; and
3. The Youanmi Joint venture in which Rox has earned a 45% interest in the gold rights.

The Youanmi joint venture tenements cover approximately 80km of strike of the highly prospective Youanmi Shear Zone. The Youanmi Shear Zone is a major state scale feature and is the boundary between the Murchison and Southern Cross Domains of the Youanmi Terrane of the Yilgarn Craton. This major structure is a crustal-scale plumbing system and is likely the first-order fluid pathway for gold mineralisation in the region.

During the September 2021 quarter Rox commenced and completed an aircore drilling program with many assays over key targets still pending.

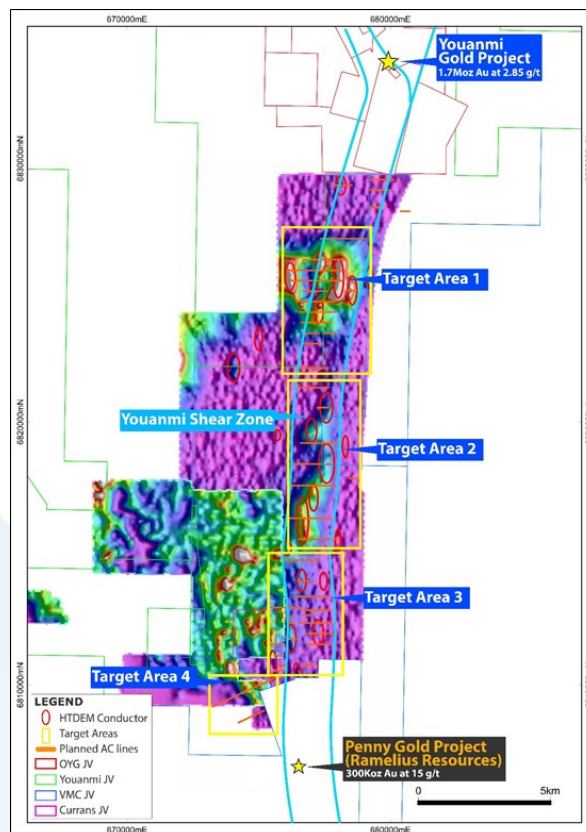


Figure 4: Helicopter-borne time-domain electromagnetic image and priority conductors (red circles)

For personal use only



## Mt Fisher - Mt Eureka Gold Project

The Mt Fisher-Mt Eureka Project is located in the Northern Goldfields, about 500km northeast of Kalgoorlie (about 120km east of Wiluna) within the underexplored Mt Eureka greenstone belt. This belt is located 40km east of the prolific Yandal greenstone belt, host of significant gold deposits including Jundee, Bronzewing and Mt McClure.

Rox holds 850km<sup>2</sup> of the Mt Fisher greenstone belt and surrounding prospective zones (Rox 100% 500km<sup>2</sup>) and in the Mt Eureka area through the Cullen Resources Joint Venture, 350km<sup>2</sup> (Rox currently earning up to 75%, Cullen Resources Limited 25%).

Following the demerger of the Fisher East Nickel Project in the September quarter, Rox has renewed its focus on gold exploration in the belt and undertook an extensive project scale review. The Company planned immediate work to advance the project including a 160-hole, 7,000-metre aircore drilling program, a circa 4,000m RC program and a hi-resolution airborne magnetic survey targeting orogenic gold mineralisation and VMS-style mineralisation over recently defined key target areas. In addition, diamond drilling was undertaken to target a strong electromagnetic conductor related to pyrrhotite associated gold mineralisation.

At quarter end the diamond drilling, aircore and RC programs were all completed with assays pending.

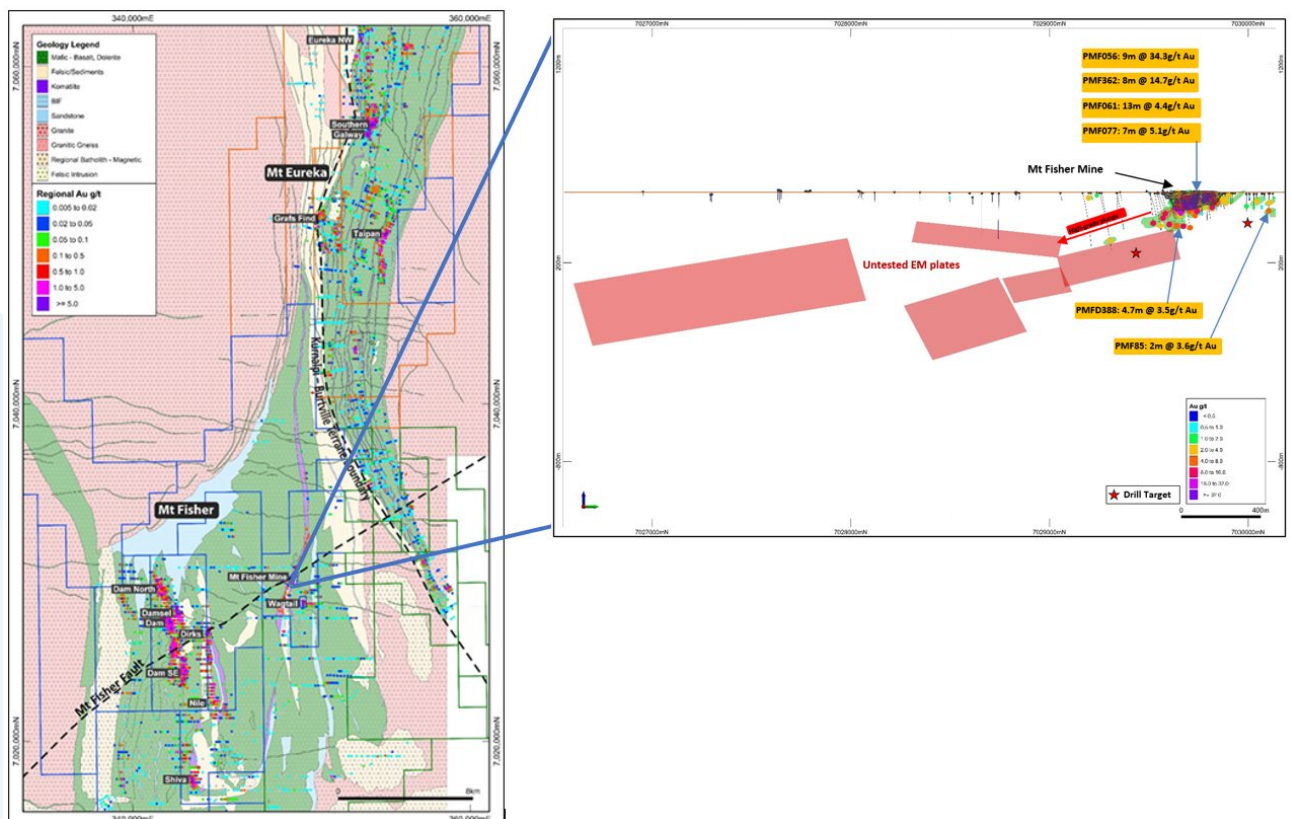


Figure 5: Mt Fisher – Mt Eureka Gold Project over interpreted bedrock geology and downhole Au grades

For personal use only

**Corporate****Financial**

As at 31 December 2021, the Company's cash balance was \$5.6 million. Expenditure for the quarter was as follows:

Description	\$m
Exploration and evaluation expenditure	4.2
Administration and employee costs	0.8
<b>Total</b>	<b>5.0</b>

Payments to related parties of the entity and their associates totalled \$0.14 million and consisted of Executive and Non-Executive Director Fees.

Authorised for release to the ASX by the Board of Rox Resources Limited.

**\*\*\*ENDS\*\*\***

**For more information:**

Alex Passmore

Managing Director

Tel: +61 8 9226 0044

E: [admin@roxresources.com.au](mailto:admin@roxresources.com.au)

For personal use only

## Competent Person Statements

### Resource Statements

The information in this report that relates to gold Mineral Resources for the Youanmi project was reported to the ASX on 20 January 2022 (JORC 2012). Rox confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 20 January 2022, and that all material assumptions and technical parameters underpinning the estimates in the announcement of 20 January 2022 continue to apply and have not materially changed.

The information in this report that relates to gold Mineral Resources for the Mt Fisher project was reported to the ASX on 11 July 2018 (JORC 2012). Rox confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 28 March 2018, and that all material assumptions and technical parameters underpinning the estimates in the announcement of 28 March 2018 continue to apply and have not materially changed.

### Exploration Results

The information in this report that relates to previous Exploration Results, was either prepared and first disclosed under the JORC Code 2004 or under the JORC Code 2012 and has been properly and extensively cross-referenced in the text to the date of original announcement to ASX. In the case of the 2004 JORC Code Exploration Results and Mineral Resources, they have not been updated to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

For personal use only

## About Rox Resources

Rox Resources Limited (ASX: RXL) is an Australian listed Company with advanced gold projects in Western Australia, the Youanmi Gold Project, and Mt Fisher Gold project.

### Youanmi Gold Project (70%) and Regional JVs (45% - 50%)

The Youanmi Gold Project is located 480 km to the northeast of Perth, Western Australia. The Youanmi Mining Centre has produced an estimated 667,000 oz of gold (at 5.47 g/t Au) since discovery in 1901 during three main periods: 1908 to 1921, 1937 to 1942, and 1987 to 1997. Following recent exploration success and resource upgrade, the project currently has a defined Mineral Resource Estimate (JORC 2012) of 24.61Mt @ 3.78g/t Au for 2.99Moz Au (ASX: 20 January 2022).

The project is situated in the Youanmi Greenstone Belt, within the Southern Cross Province of the Archaean Yilgarn Craton in Western Australia. The structure of the Youanmi Project is dominated by the north-trending Youanmi Fault Zone. Most of the gold mineralisation seen at the project is hosted within north-northwest splays off the north-northeast trending Youanmi Fault.

The Youanmi Gold Project consist of four joint ventures with Venus Metals Corporation Limited. The OYG JV (Rox 70%, all minerals) covers 65km<sup>2</sup> and surrounds the Youanmi Gold Mine and nearby extensions; the VMC JV (Rox 50%, gold rights) lies immediately south of the OYG JV and covers 302km<sup>2</sup> with some 35km of strike the Youanmi shear zone; The Youanmi JV (Rox 45%, gold rights) covers 270km<sup>2</sup> and lies to the south west and north east of the OYG JV and the Currans Find JV (Rox 45%, all minerals) which covers 4km<sup>2</sup> and is located within the Youanmi Greenstone Belt and situated approximately 5 km north-northwest of the historical Penny West gold mine.

### Mt Fisher – Mt Eureka Gold Project (100% and earning up to 75%)

The Mt Fisher / Mt Eureka Project is located in the Northern Goldfields, about 500km north of Kalgoorlie (about 120km east of Wiluna). Rox holds 850km<sup>2</sup> of the Mt Fisher greenstone belt and surrounding prospective zones (Rox 100% 500km<sup>2</sup>) and in the Mt Eureka area via the Cullen Resources JV, 350km<sup>2</sup> (Rox currently earning up to 75%, Cullen Resources Limited 25%).

Drilling by Rox has defined numerous high-grade gold targets and a JORC 2012 Measured, Indicated and Inferred Mineral Resource (ASX:RXL 11 July 2018) of 1.0 million tonnes grading 2.7 g/t Au reported at a 0.8 g/t Au cut-off exists for 89,000 ounces of gold (Measured: 170,000 tonnes grading 4.1 g/t Au, Indicated: 220,000 tonnes grading 2.7 g/t Au, Inferred: 630,000 tonnes grading 2.3 g/t Au) aggregated over the Damsel, Moray Reef and Mt Fisher deposits.

For personal use only

## Appendix 1 - Mining Tenements

Project	Interest	Tenement Number	Interest held at beginning of quarter	Interest held at end of quarter
<b>Mt Fisher, WA</b>	All Minerals	E53/1061	100%	100%
	All Minerals	E53/1106	100%	100%
	All Minerals	E53/1836	100%	100%
	All Minerals	E53/1319	100%	100%
	All Minerals	E53/1788	100%	100%
	All Minerals	M53/0009	100%	100%
	All Minerals	M53/0127	100%	100%
	All Minerals	E36/948	100%	100%
	Gold Rights	E53/1218	100%	100%
	All Minerals	E53/2002	100%	100%
	All Minerals	E53/2075	100%	100%
	All Minerals	E53/2095	100%	100%
	Application	E53/2199	0%	0%
	Application	E53/2201	0%	0%
	All Minerals	E53/2102	100%	100%
	<b>Youanmi Gold Project, WA</b>	All Minerals	E57/1121	100%
All Minerals		E57/1122	100%	100%
All Minerals		E57/1123	100%	100%
Application		E57/1209	0%	0%
Application		E57/1210	0%	0%
	Application	L 57 / 59	0%	0%
<b>Youanmi - OYG JV, WA</b>	All Minerals	M57/10	70%	70%
	All Minerals	M57/51	70%	70%
	All Minerals	M57/75	70%	70%
	All Minerals	M57/97	70%	70%
	All Minerals	M57/109	70%	70%
	All Minerals	M57/135	70%	70%
	All Minerals	M57/160A	70%	70%
	All Minerals	M57/164	70%	70%
	All Minerals	M/57165	70%	70%
	All Minerals	M57/166	70%	70%
	All Minerals	M57167	70%	70%
<b>Youanmi - Sandstone Youanmi JV</b>	Gold Rights	E57/985	45%	45%
	Gold Rights	E57/986	45%	45%
	Gold Rights	E57/1011-I	45%	45%

For personal use only

Project	Interest	Tenement Number	Interest held at beginning of quarter	Interest held at end of quarter
<b>Youanmi - Sandstone Youanmi JV</b>	Gold Rights	P57/1365	45%	45%
	Gold Rights	P57/1366	45%	45%
<b>Youanmi - VMC JV, WA</b>	Gold Rights	E57/982	50%	50%
	Gold Rights	E57/1018	50%	50%
	Gold Rights	E57/1019	50%	50%
	Gold Rights	E57/1023-I	50%	50%
	Gold Rights	E57/1078	50%	50%
<b>Youanmi - Currans JV, WA</b>	All Minerals	M57/641	45%	45%
	All Minerals	M57/642	45%	45%
<b>Mt Eureka - Cullen JV, WA</b>	All Minerals	E53/1209	0%	Earning up to 75%
	All Minerals	E53/1299	0%	Earning up to 75%
	All Minerals	E53/1637	0%	Earning up to 75%
	All Minerals	E53/1893	0%	Earning up to 75%
	All Minerals	E53/1957	0%	Earning up to 75%
	All Minerals	E53/1958	0%	Earning up to 75%
	All Minerals	E53/1959	0%	Earning up to 75%
	All Minerals	E53/1961	0%	Earning up to 75%
All Minerals	E53/2052	0%	Earning up to 75%	

For personal use only